



JMPS-M

External Interfaces



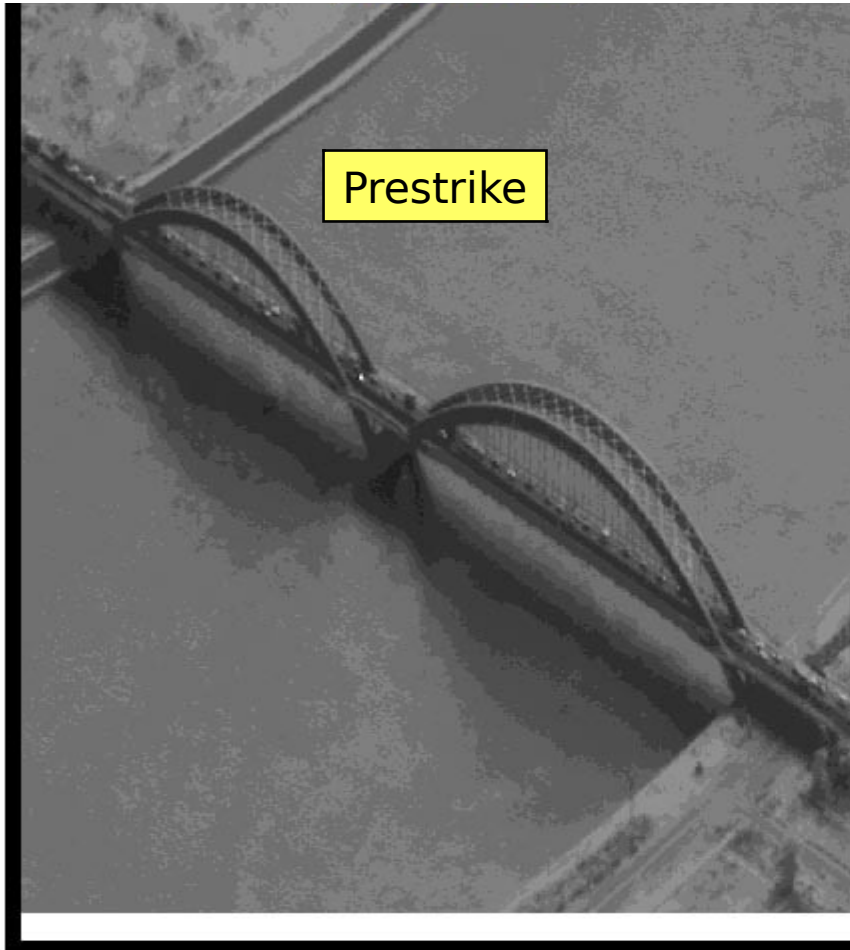
Outline



- What does the term External Interface mean?
- How do External Interfaces relate to External Dependencies?
- Who is working External Interfaces?
- Why are we working External Interfaces?
- How is NAVAIR WD set up to support JMPS-M (Maritime) External Interfaces?
- Finally, to put the focus where it needs to be...



In case we forget what we plan for...





- Add exp ops pictures, ground-pounders and helos and av-8B



JMPS-M External Interfaces POC



- Ancina Stevens
 - JMPS Maritime External Interfaces Coordinator
 - Phone:
 - 805-989-5269 (lab)
 - 805-989-7425 (voice mail)
 - 805-989-9663 (desk)
 - Email: ancina.stevens@navy.mil



External Interface Defined



- External
 - Not intrinsic or essential
 - Of or relating to dealings or relationships with foreign organizations
- Interface
 - The place which independent systems meet and act on or communicate with each other
 - Common boundary between two or more items of equipment



External Interface Defined



- JMPS External Interface
 - Connection between JMPS framework or JMPS common components and an independent system or piece of data
 - Not part of basic JMPS mission planning
- Major External Interface Categories
 - System
 - Software (requires software, provided or developed, on JMPS)
 - Browser (requires only a Browser on JMPS)
 - Data
 - Flat file, XML file, various media types
 - NIMA products, GPS Almanac, etc.



External Interface Process



- PMA-233/NAVAIR WD oversight
- Forum for information exchange
- Lay the groundwork for JMPS External Dependency roadmap

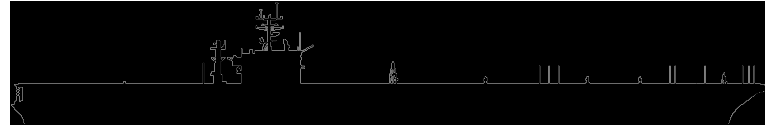
Ancina Stevens is the JMPS External Interfaces Cat Herder!



External Interface Process



- Focus on JC1 carrier-based interfaces first
- Expand to include Navy Expeditionary OPS interfaces next

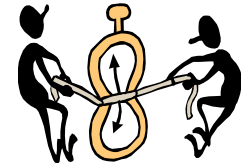




External Interface Challenges



- Many external systems and data
 - Multiple external program offices and contractors
 - 'Squeaky wheel gets the grease'
 - Priorities should be driven by user requirements
 - Agreements (some firm...some loose)
- Funding
 - Especially life cycle maintenance support of the software providing the interface (both sides)
- Schedule synchronization
 - Everyone's schedule changes (both sides)
- Technical issues, including inter- and intra-ship/shore connectivity





Schedule Synchronization



- Schedule
 - Development
 - Difficult enough
 - Fielding
 - Sometimes impossible due to the D-30 process for ship installations



Sometimes 'close enough' is the best you can achieve.



System Development



- External interfaces
 - Implementation of certain system requirements
- Oversight of external interfaces
 - Spans the entire system development life-cycle, through all spirals
 - Covers all aspects of system development
 - Hardware
 - Software
 - Documentation
 - Data support



JMPS External Interface Tasks



- Requirements
 - Become familiar with ORD and basic user requirements and be on the lookout for ways to satisfy those requirements
- Design/Development
 - Identify POCs for technical information
 - Review system-level documentation
- Test
 - Perform testing, when needed
 - Identify external system hardware and software required for testing the interface or facilitate a remote connection
- Care and Feeding
 - Perform a routine pulse check on existing and potential external interfaces and document risks, problem areas, etc.
- Library
 - Compile an electronic library for all external interfaces and update monthly



JMPS JC1 Integration Tasks



	Planning Phase	JC1 Integration Execute Phase	Assessment Phase
JMPE	<ul style="list-style-type: none">•Prepare Integration Plan•Identify test hardware suite•Analyze source code issues•Analyze DRs	<ul style="list-style-type: none">•Analyze defects/metrics•Recommend test focus	<ul style="list-style-type: none">•Waiver assessments•Prepare final report
CM	<ul style="list-style-type: none">•Prepare CM Plan•Build JMPS CD (all configs)•Baseline Core software	<ul style="list-style-type: none">•Inject patches into baseline•Rebuild/reinstall systems•Troubleshooting	
UPC	<ul style="list-style-type: none">•Prepare UPC Integration Plan	<ul style="list-style-type: none">•UPC coordination/assist	<ul style="list-style-type: none">•UPC evaluation forms
Ext. Sys.	<ul style="list-style-type: none">•Identify external systems•Obtain external systems•Install/Config. External systems	<ul style="list-style-type: none">•Maintain external systems	
Test	<ul style="list-style-type: none">•Prepare Integration test plan•Prepare test point matrix	<ul style="list-style-type: none">•Perform integration test•Capture defects•Collect metrics	<ul style="list-style-type: none">•Test Perf. Assessment
QA	<ul style="list-style-type: none">•Prepare Integration QA plan•Peer Review Integration plans	<ul style="list-style-type: none">•Verify entry criteria met•Verify defect reports•Verify exit criteria met	

■Artifact

■Task



JMPS JC1 Integration Tasks

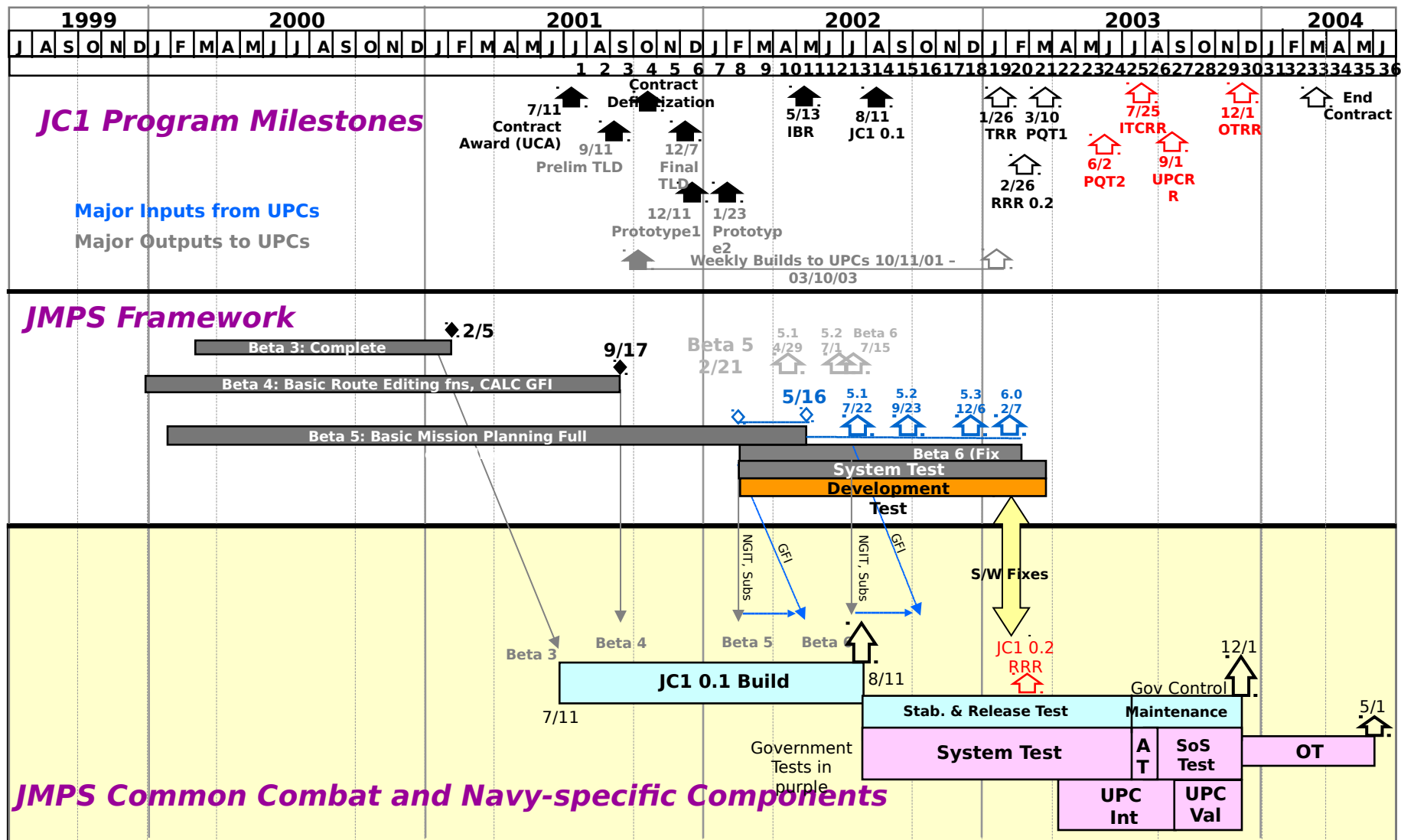


	Planning Phase	JC1 Integration Execute Phase	Assessment Phase
JMPE	<ul style="list-style-type: none">• Prepare Integration Plan• Identify test hardware suite• Analyze source code issues• Analyze DRs	<ul style="list-style-type: none">• Analyze defects/metrics• Recommend test focus	<ul style="list-style-type: none">• Waiver assessments• Prepare final report
CM	<ul style="list-style-type: none">• Prepare CM Plan• Build JMPS CD (all configs)• Baseline Core software	<ul style="list-style-type: none">• Inject patches into baseline• Rebuild/reinstall systems• Troubleshooting	
UPC	<ul style="list-style-type: none">• Prepare UPC Integration Plan	<ul style="list-style-type: none">• UPC coordination/assist	<ul style="list-style-type: none">• UPC evaluation forms
Ext. Sys.	<ul style="list-style-type: none">• Identify external systems• Obtain external systems• Install/Config. External systems	<ul style="list-style-type: none">• Maintain external systems	
Test	<ul style="list-style-type: none">• Prepare Integration test plan• Prepare test point matrix	<ul style="list-style-type: none">• Perform integration test• Capture defects• Collect metrics	<ul style="list-style-type: none">• Test Perf. Assessment
QA	<ul style="list-style-type: none">• Prepare Integration QA plan• Peer Review Integration plans	<ul style="list-style-type: none">• Verify entry criteria met• Verify defect reports• Verify exit criteria met	

- Artifact
- Task



JMPS Master Schedule (proposed - Jan 2003)





JMPS Schedule

22 JAN 03



DRAFT

JV1 (CLIN 100-108)

Rs=32,

IPRs=65)

9/23 12/2 12/6 12/13
5.2 5.3

NGIT
Freeze
Baseline

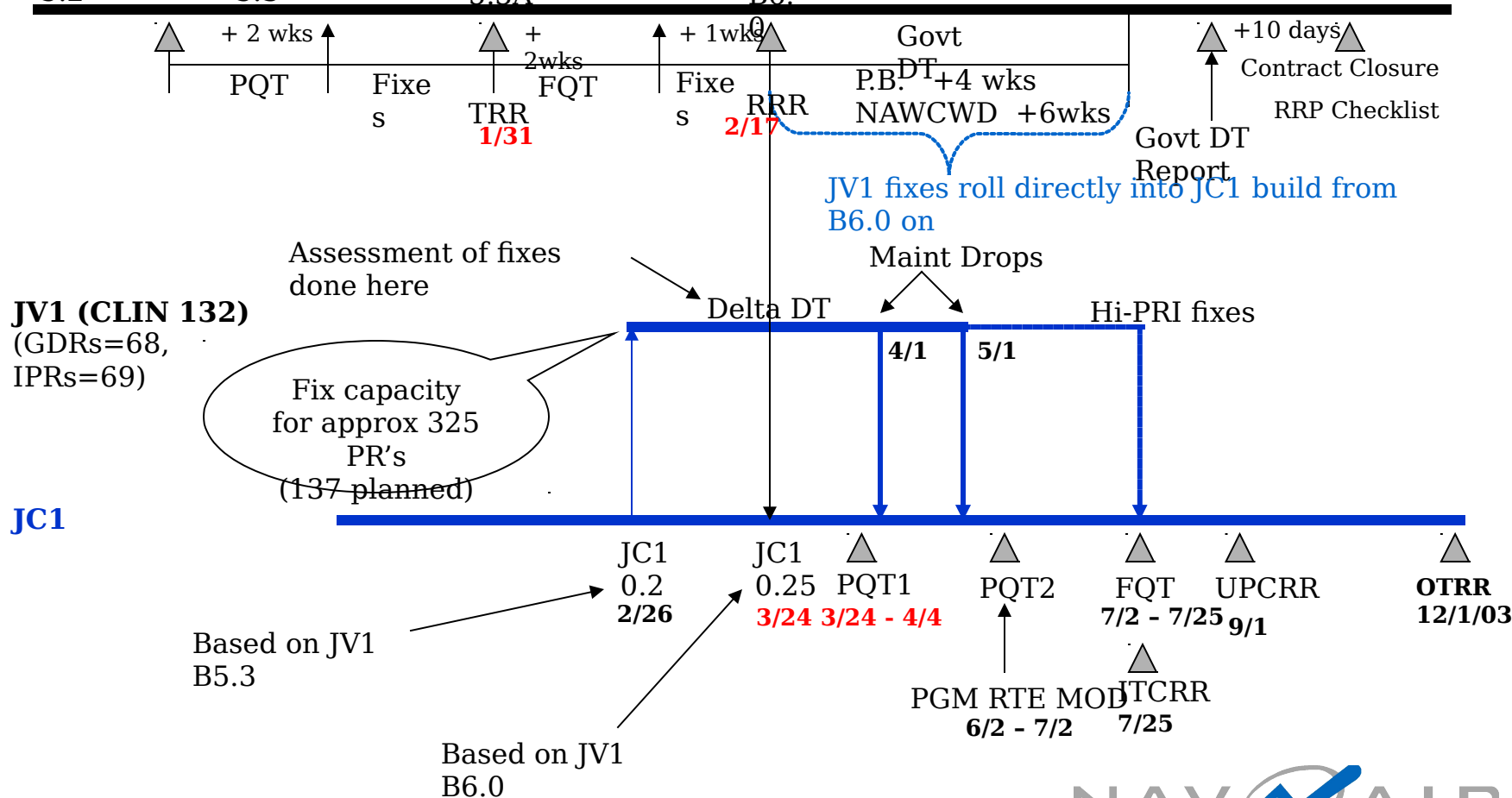
2/3 5.3A

•Expectation: No unmitigated PR 1, 2's, spec 3 & 4s

•Entry: MTBOMF > 30 hrs

Govt
Delta
DT
4/7-4/21

Map
Delta
FQT
4/7-4/10 ~4/28 ~5/9





External Systems Test Schedule



- JV1
 - From Beta 5 on, verify the JMPS/GCCS-M interface with most builds being tested
 - Total of 7 JV1 builds from May 02 through Mar 03
 - JV1 Beta 6.0 Build 680 being tested as of 5 Mar 03
- JC1
 - On-going test of major builds verifying functionality
 - Total of two formal builds and four engineering builds from Aug 02 through Feb 03
 - JC1 0.2 Version 1.1.0.2000 being tested as of 5 Mar 03



Other Test-Related Activities



- NGIT test procedures
 - Inspection by focus area representatives
- Government test procedures
 - Peer reviews
 - 11 of 51 JV1/JC1 test procedures touching external interfaces (systems/data)

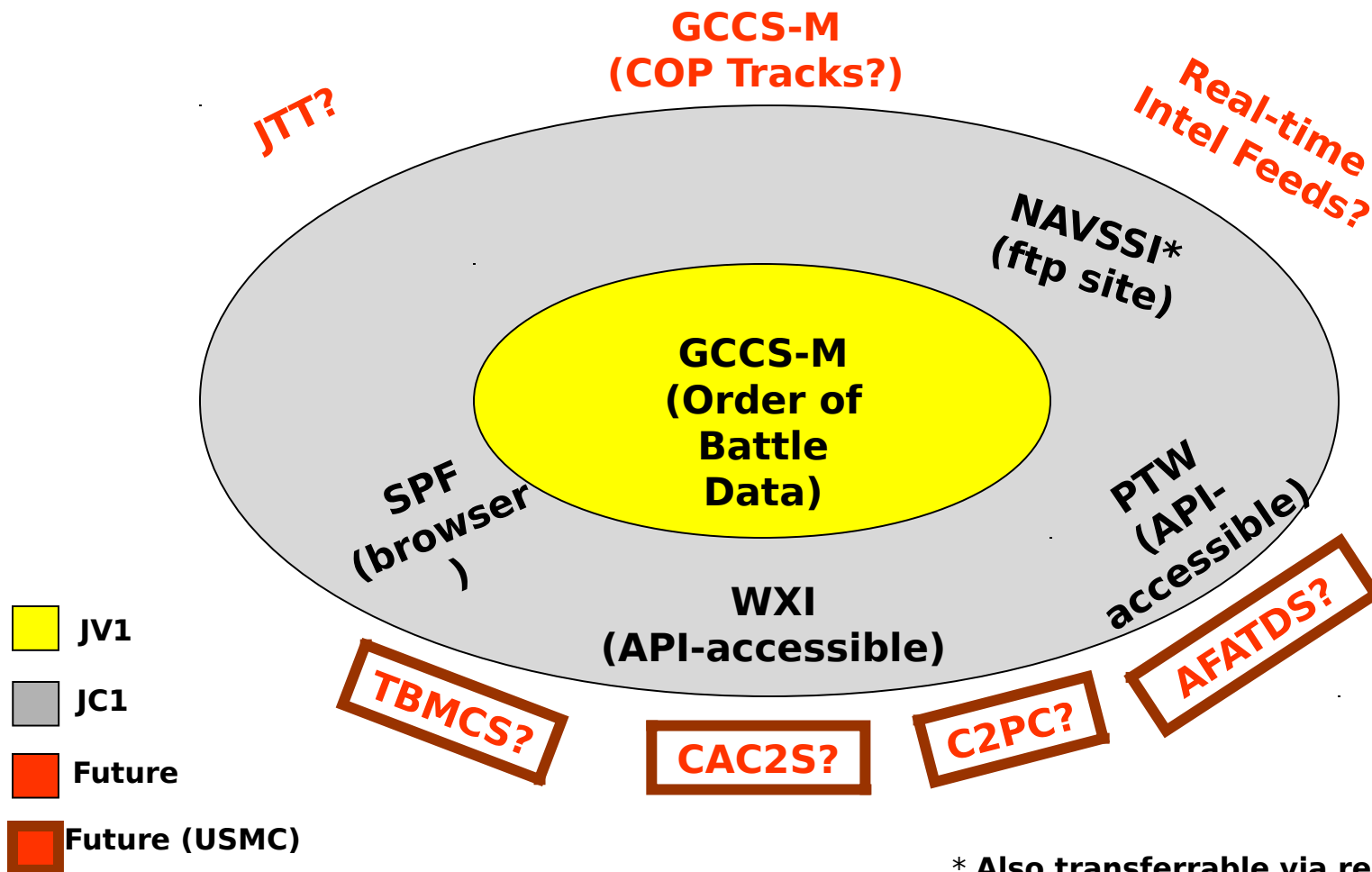


JMPS-M External Interfaces



JMPS-M

External 'System' Interfaces



* Also transferrable via removable media

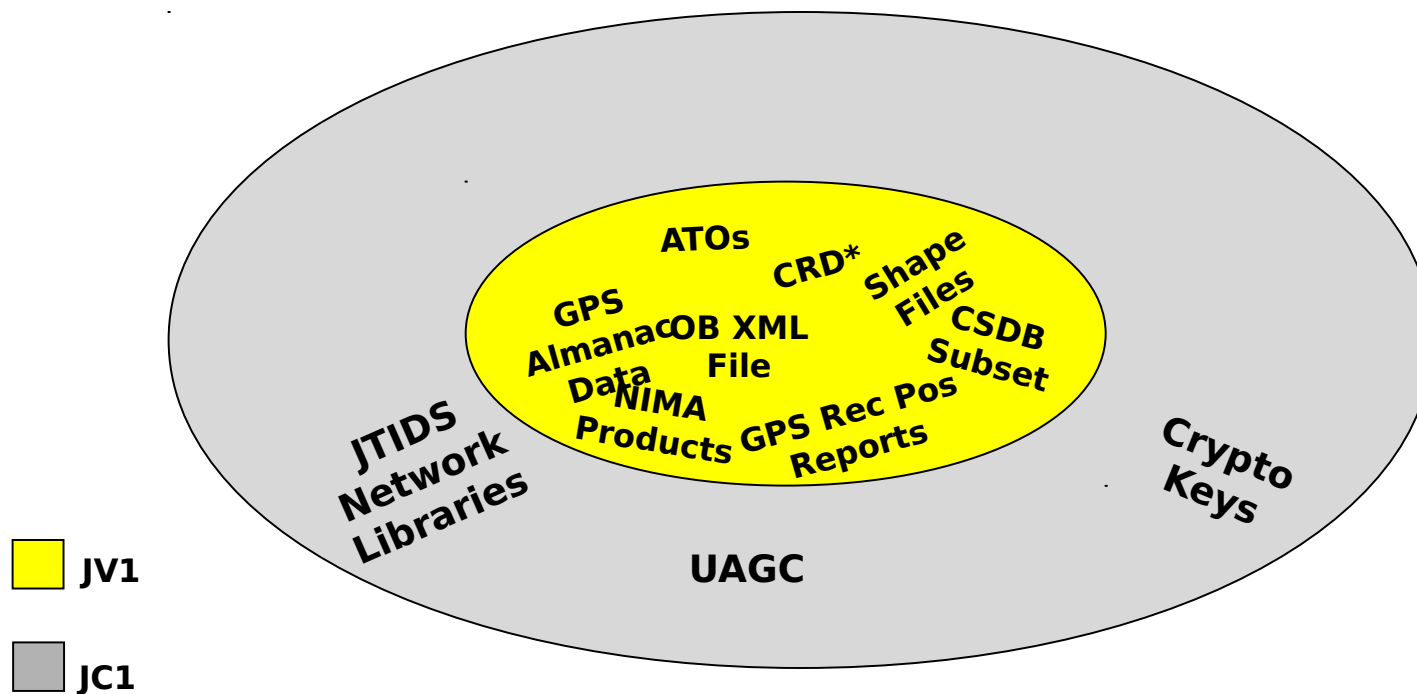


JMPS-M

External 'Data' Interfaces



FPMs and Mission Binders?



***All are import data interfaces except CRD, which is both import and export.**



JMPS External Interface POCs



- Navy
 - Ancina Stevens (Navy Coordinator)
 - Mary Collins (GCCS-M, Intel Data)
 - Matt Becker (NAVSSI, DAFIF, GPS Almanac Data)
 - Ann Gross (JNL)
 - Matt Jensen (ATO, ACO, ATOCONF)
 - Sharon Spielman (ESRI Shapefile)
 - Stuart Stratton (Crypto Keys)
 - David Tartt (CRD)
 - Major Will Bentley (USMC Exp Ops)
 - Requirements still evolving
 - LCDR Pat Waring (METOC/NIMA)
 - China Lake IBAR Lab
 - Darin Martin
 - Point Mugu Lab
 - Joe Orosco



External Interface Summary



SYSTEM/DATA	DESCRIPTION	S/D	J V1	J C1	FUTURE	COE SGMT	METHOD	J MPS POC	COMMENTS
AFATDS	Advanced Field Artillery Tactical Data System				X			Maj Will Bentley	Exp Ops
ATO/ACO/ATOCONF	USMTF Air Tasking Order, Air Combat Order, Air Tasking Order Confirmation Message	D	X	X				Matt Jensen	
C2PC	Command and Control PC				X			Maj Will Bentley	Exp Ops - related to GCCS Track Data
CAC2S	Common Aviation Command and Control System				X			Maj Will Bentley	Exp Ops
CRD	Common Route Definition	D	X	X				David Tartt	
Crypto Keys	GPS Crypto Keys	D						Matt Becker	
CSDB Subset	Combat System Data Base	D	X	X			File Import	Ancina Stevens	
GCCS-M	Global Command and Control System-Maritime	S	X	X			J MPS GUI Request	Mary Collins	Currently only MOB (SAM, AAA) and EOB equipment
GPS ALMANAC	Global Positioning System Almanac Data	D	X	X				Matt Becker	Yuma and Navstar formats supported
GPS POSITS	Global Positioning System Position Reports	D	X	X			Data feed on COM port	Matt Becker	Precision Lightweight GPS Receivers (PLGRs) built since 1993 are supported in J MPS. Interface uses the NMEA-0183 industry standard GPS interface (serial port).
J NL	J TIDS Network Library			X				Ann Gross	
J TT	Joint Targeting Toolkit				X			Mary Collins	
NAVSSI	Navigation Sensor System Interface	S		X		Lvl 6	J MPS GUI	Matt Becker	
NIMA MCG&I	National Imagery and Mapping Agency Mapping, Charting, Geodesy and Imagery	D	X	X				LCDR Pat Waring	
OB XML File	Order of Battle eXtensible Markup Language	D	X	X			File Import	Mary Collins	
PTW	Precision Targeting Workstation	S		X			API ONLY	Ancina Stevens	
Real-time Data Feeds	Real-time Data Feeds				X			Mary Collins	PFPS 3.2 capability - BirdDog Tools
ESRI SHAPEFILE	Environmental Systems Research Institute SHAPEFILE	D	X	X				Sharon Spielman	
SPF	Strike Planning Folder	S		X			BROWSER	Ancina Stevens	
TBMCS	Theater Battle Management Core System				X			Maj Will Bentley	Exp Ops
TOPSCENE	Tactical Operation SCENE		X	X				Ancina Stevens	Used as a test tool for CRD data exchange (import only)
WXI (METCAST)	METeorologic broadCAST	S		X			API ONLY	Stuart Stratton	
WXI (UAGC)	Upper Air Gridded Climatology			X				Ancina Stevens	

****As of 5 Mar 2003****



Test Procedures



SYSTEM/DATA	J V1	J C1	FUTURE	METHOD	NGIT TESTER	GOVT TESTER (J V1)
AFATDS			X			
ATO/ACO/ATOCONF	Manage ATO Data	Standalone Import/Export Standalone (Data Types) Server Walkaway			Cindy Nguyen	Stanley Lefkowitz
C2PC			X			
CAC2S			X			
CRD	Exchange Mission Data	X			Lynn Diamond	David Tartt
Crypto Keys		GPS Crypto Keys 1 GPS Crypto Keys 2				
CSDB Subset	Manage Threat Data	Standalone Import/Export Standalone (Data Types) Server Walkaway		File Import		Ancina Stevens
GCCS-M	Manage Threat Data	Mnth Netwk Data Srce Config Standalone Import/Export Standalone (Data Types) Server Walkaway		J MPS GUI Request	Steve Allen	Ancina Stevens
GPS ALMANAC	Manage GPS Almanac	Update GPS Almanac Server Walkaway			Michael Chiang	Matt Becker
GPS POSITS	Manage GPS Almanac	Update GPS Almanac Server Walkaway		Data feed on COM port	Michael Chiang	Matt Becker
J NL		Maintain J TIDS				Sharon Spielman
J TT			X			
NAVSSI		X		J MPS GUI		Matt Becker
NIMA MCG&I	Manage DAFIF Data				Richard Nguyen Jim Sra	
OB XML File	Manage Threat Data	Standalone Import/Export Standalone (Data Types) Server Walkaway		File Import	Steve Allen	Ancina Stevens
PTW		Interface to PTW Server Walkaway		API ONLY	Lynn Diamond	Steve Crawford
Real-time Data Feeds			X			
SHAPEFILE	Define Planning	Server Walkaway				Paul Nelson
SPF		Interface to SPF		BROWSER	Lynn Diamond	Steve Crawford
TBMCS			X			
TOPSCENE	Exchange Mission Data					David Tartt
WXI (METCAST)		Weather Standalone Import/Export Standalone (Data Types)		API ONLY	Lynn Diamond	Erika Ocampo (to be reassigned)
WXI (UAGC)						
MISSION BINDERS		Mission Binders (MB) MB Backup/Restore Standalone Import/Export Standalone (Data Types) Server Walkaway			Michael Chiang	Joe Orosco

****As of 5 Mar 2003****



External Systems Non-JMPS POCs



SYSTEM/DATA	DESCRIPTION	PROGRAM POC	TECHNICAL POC	ENGRG DROP	OT COMP	IOC	UPC/CUPC PGM
AFATDS	Advanced Field Artillery Tactical Data System						
ATO/ACO/ATOCONF	USMTF Air Tasking Order, Air Combat Order, Air Tasking Order Confirmation Message						
C2PC	Command and Control PC						
CAC2S	Common Aviation Command and Control System						
CRD	Common Route Definition	Mike Stine (PMA-233) (301) 757-8014	Sam Parsons (Tybrin)				
Crypto Keys	GPS Crypto Keys						
CSDB Subset	Combat System Data Base						
GCCS-M	Global Command and Control System-Maritime	Will Landenberg (610)260-4217/(610)662-4390	Donna Snow (NGIT-Phila) (610) 260-4264	4X V10	Apr-04	Sep-04	
GPS ALMANAC	Global Positioning System Almanac Data						
GPS POSITS	Global Positioning System Position Reports						
J NL	J TIDS Network Library						
J TT	J oint Targeting Toolkit						
NAVSSI	Navigation Sensor System Interface	Patrick Truver (PMW-156) patrick.truver@navy.mil (619) 524-7767	Ladd McCoy ladd.mccoy@titan.com				
NIMA MCG&I	National Imagery and Mapping Agency Mapping, Charting, Geodesy and Imagery						
OB XML File	Order of Battle eXtensible Markup Language File						
PTW	Precision Targeting Workstation	Carl Roed (CSCI/PMA 281) (703) 866-4000	Brad Cordill (BAE) (858) 592-5358	4.1 4.1.1 4.2	11/15/02 10/6/03 5/24/04	3/24/03 2/10/04 9/28/04	SLAM-ER J SOW
Real-time Data Feeds	Real-time Data Feeds						
ESRI SHAPEFILE	Environmental Systems Research Institute SHAPEFILE						
SPF	Strike Planning Folder	Matt Worthington (CSCI/PMA 281) (703) 414-3858	J erald Barker (BAE) (858) 592-5662				
TBMCS	Theater Battle Management Core System						
TOPSCENE	Tactical Operation SCENE	Alan Herod (PMA 205) (301) 757-8136	Steve Perkins (Lockheed) (972) 603-9001				
WXI (METCAST)	METeorologic broadCAST	Pat Waring (NAVAIR) (301) 342-0086 waringpl@navair.navy.mil	Brad Cordill (BAE) (858) 592-5358				J SOW
WXI (UAGC)	Upper Air Gridded Climatology						

****As of 5 Mar 2003****



IBAR External Systems



SYSTEM	DESCRIPTION	TYPE (QTY)	SOFTWARE VERSION(S)	NOTES
C2PC	Command and Control PC	GCCS-M 3.x client		
GCCS-M	Global Command and Control System-Maritime	GCCS-M 3.x Server GCCS-M 4.2 Server	3.1.2.1 4.X	4.X Build 10 (Feb 03) expected after 17 Mar 03
PTW	Precision Targeting Workstation	PTW Server (3) PTW Heavy Client (2) PTW Thin Client (2) PTW Rack Mount (1)	3.2 - 4.1 - 4.1.1a 4.1 - 4.1.1a 4.1 - 4.1.1a 4.1.1a	4.1.1 expected approximately Apr 03
SPF	Strike Planning Folder	PTW Server 4.01 PTW Server 4.1	SPF SPF Build 6	Build 7 compatible with PTW 4.1.1. Only

As of 5 Mar 2003



UPC Dependencies



		FA-18	F-14	E-2C	HARM	J SOW/J DAM E6B6	SLAM- ER
DESCRIPTION	S/D						
Advanced Field Artillery Tactical Data System							
USMTF Air Tasking Order, Air Combat Order, Air Tasking Order Confirmation Message	D						
Command and Control PC							
Common Aviation Command and Control System							
Common Route Definition	D						
	D	X	X				
Combat System Data Base	D						
Global Command and Control System-Maritime	S						
Global Positioning System Almanac Data	D	X	X		X	X	
Global Positioning System Position Reports	D						
J TIDS Network Library							
Joint Targeting Toolkit							
Navigation Sensor System Interface	S						
National Imagery and Mapping Agency Mapping, Charting, Geodesy and Imagery	D						
Order of Battle eXtensible Markup Language File	D						
Precision Targeting Workstation	S					J SOW(ATA) J SOW(MTF/ATA)	ATA
Real-time Data Feeds							
	D						
Strike Planning Folder	S						
Theater Battle Management Core System							
Tactical Operation SCENE							
METeoroologic broadCAST	S					X	
Upper Air Gridded Climatology							

As of 5 Mar 2003



JC1 External Interface Risks



J C1 Risk #	Title	Comments
54	Parallel development with External Interfaces	Constant issue being worked as part of the External Interface effort.
56	PTW 4.1 Imagery Availability	Probably referring to 4.1.1. Mitigated by the dual CGI and XML interfaces being implemented in J MPS.
164	Missing or Partial Requirements May Impact UPCs	Missing BE_ NUMBER and CATEGORY are being added to the GCCS-M DAL interface via a contract mod.
165	Multiple Logins	Every interface is affected. No open issues.
178	J C1 may be required to go through OT and/or be fielded on a carrier prior to GCCS-M 4.X going through OT and being fielded on the same ship.	Still being worked.



Release Versions (Data)



- DAFIF
 - Edition 6
 - DAFIFT (DAFIF Tab-delimited)
- GPS Almanac Data
 - NMEA 0183
- CSDB
 - Nov 02; uncertified

As of 24 Mar 2003



DAFIF Issue



DAFIF Version	Date	J MPS Pass	J MPS Fail	Remarks
0210	03 Oct 02 - 30 Oct 02	X		
0211	31 Oct 02 - 27 Nov 02		X	Route Family Airport data
0212	28 Nov 02 - 25 Dec 02	X		
0213	26 Dec 02 - 22 Jan 03		X	Way Points Family
0301	23 Jan 03 - 19 Feb 03	X		
0302	20 Feb 03 - 19 Mar 03	X		
0303	20 Mar 03 - 16 Apr 03		X	Airports/Airways data

- JMPS processes the DAFIFT tab-delimited files
- TAMPS and PFPS process the 'old' DAFIF files
- A DAFIF CD-ROM can work fine in TAMPS and PFPS, but have problems in JMPS

Dependable DAFIF must be available by JC1 OT



GCCS-M



- **Global Command Control System - Maritime (GCCS-M)** is a single, integrated, scaleable Command, Control, Communication, Computer, and Intelligence (C4I) system that receives, displays, correlates, fuses and maintains geo-locational track information on friendly, hostile, and neutral land, sea and air forces and integrates it with available intelligence and environmental information.

GCCS-M/JV1 Interface - allows JMPS users with DBA role to query for current threat Order of Battle data (SAM, AAA, and EOB equipment) from GCCS-M's tactically-relevant MIDB and returns the results in XML. This results can then be saved to the JMPS database and made available to all JMPS users and UPCs.



NAVSSI



- The AN/SSN-6 **Navigation Sensor System Interface (NAVSSI)** system is an integrated shipboard system that automatically accepts, processes, and disseminates navigation and time information from various shipboard navigation sources. The AN/SSN-6 provides a means for mission planners to obtain data verification, digital mapping, and the programming of selected way points. One of the navigation data products includes a GPS almanac file NAVSTAR.alm. This almanac data is used by platforms that require GPS navigation.

NAVSSI/JC1 Interface - allows a JMPS user to download current GPS Almanac data (from NAVSSI) via an ftp site on a LAN/WAN.



PTW



• **Joint Service Imagery Processing System - Navy (JSIPS-N) Precision Targeting Workstation (PTW)** provides imagery, specialized image products, and Mission Target Folders to assist the planner in generating missions.

PTW/JC1 Interface* – allows a JMPS UPC to query for the following products:

- Imagery (NITF 2.0 Expanded Format)
- Automated Target Acquisition (ATA) Products (chipped images)
- Point Position Information Products (PIIP)
- Target Folders with Visual Targeting Aids (VTAs)

The ***PTW/JC1*** interface also supports ATA product generation requests and the exporting of retrieved products to UPC directories.

There is no user interface in JMPS related to the PTW interface. It can only be used programmatically by a UPC. A test driver, provided by BAE Systems, is used for testing prior to UPCs being available.

*Note: Currently, SLAM-EB and the JSOW/JDAM GUPC are expected to use the PTW interface. Although retrieval of PIIP is supported in the interface, no UPC has been identified as a user of this product.



SPF



- **Strike Planning Folder (SPF)** functions as a mission/data repository storing routes, threat information, intelligence, weather, Air Tasking Orders (ATO), Rules of Engagement (ROE), and briefing material. Routes are stored in SPF in the Common Route Definition (CRD) format.

SPF/JC1 Interface - allows JMPS users to access, view, and use information held in the SPF repository via a Web Browser. There really is no interface of data to/from SPF except what can be done using normal Windows functionality.



WXI (METCAST)



- **ME**Teorologic **broa**d**CAST** (**METCAST**) is a request-reply and subscription system for distributing weather information extracted from the Tactical Environment Data Server (TEDS) database.

METCAST/JC1 Interface - allows a JMPS UPC to query for current and forecasted weather data.

There is no user interface in JMPS related to the METCAST interface. It can only be used programmatically by a UPC. A test driver, provided by BAE Systems, is used for testing prior to UPCs being available. Currently, the JSOW UPC is expected to use the JMPS interface for METCAST data.



Additional 'Systems'



- TOPSCENE
- TAMPS
- PFPS



TOPSCENE



- **Tactical Operational Scene (TOPSCENE)** is a 3-dimensional (3-D) scene generator used to simulate the route of flight. The system generates a dynamic 3-D representation based on specific route information, ground elevation data, imagery and threat data.

TOPSCENE can import routes in CRD format and is used for testing JMPS CRD export functionality in JMPS.



JMPS/GCCS-M Interface



JMPS/GCCS-M Interface



- Requirement
 - Electronic interface to GCCS-M for the purpose of obtaining current GCCS-M threat data
 - Electronic Order of Battle
 - Radar equipment
 - Missile Order of Battle
 - Surface-to-Air Missile (SAM) equipment
 - Anti-Aircraft Artillery (AAA) equipment



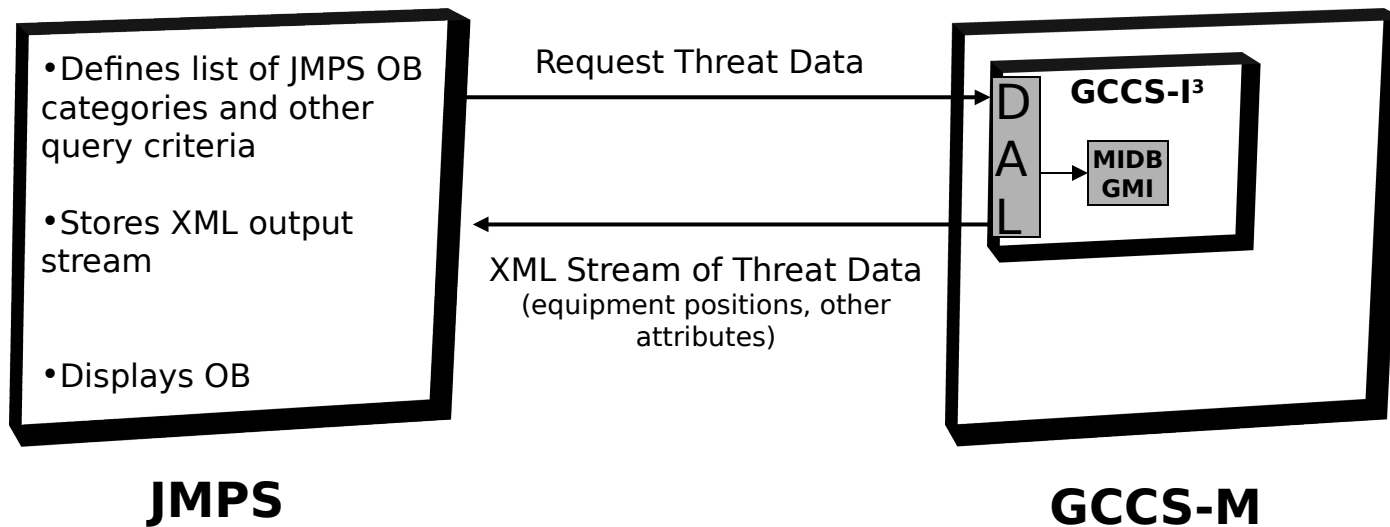
JV1/GCCS-M Interface



- Interface to GCCS-M from JMPS
 - The GCCS-M Data Access Layer XMLSearch API is used by the JMPS software to request the required threat data across the LAN
 - Not currently available to the mission planner without giving the planner additional privileges
 - Ultimate source of the data is the equipment portion of the GCCS-M MIDB GMI data base
- Processing of the Data on JMPS
 - Upon receipt of the threat data, JMPS saves the threat data set for subsequent use by the mission planner
 - More than a single 'GCCS-M-generated' data set can be saved
- Usage of the Data on JMPS
 - Available to mission planner as a data set that can be used within a planning session

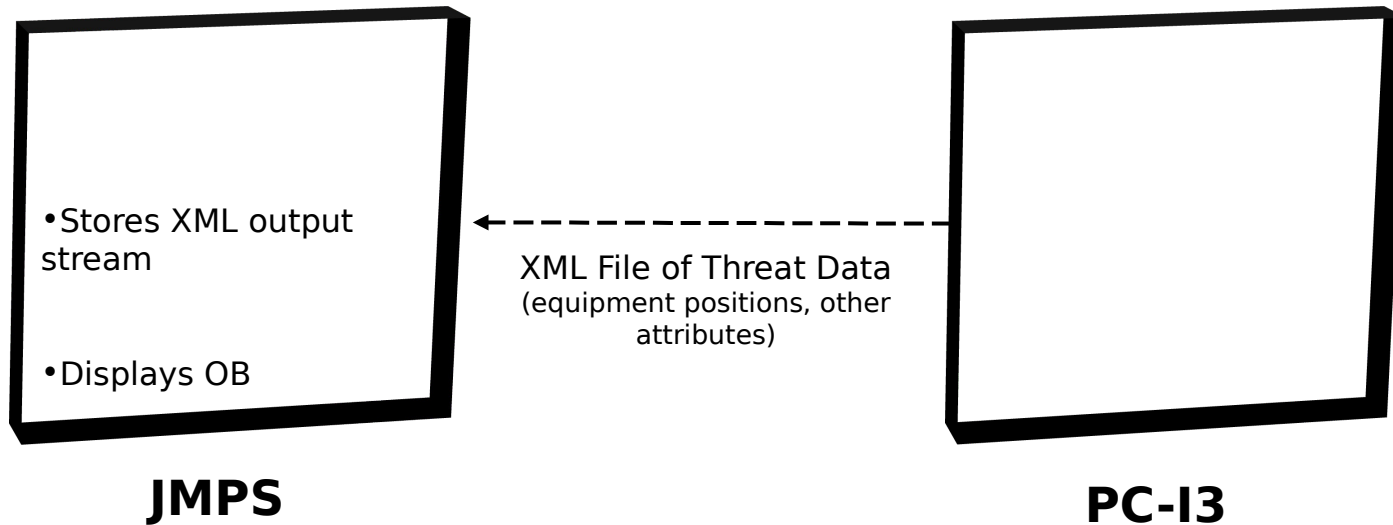


JV1 Implementation (Navy CONOPS)





JV1 Implementation (Air Force CONOPS)





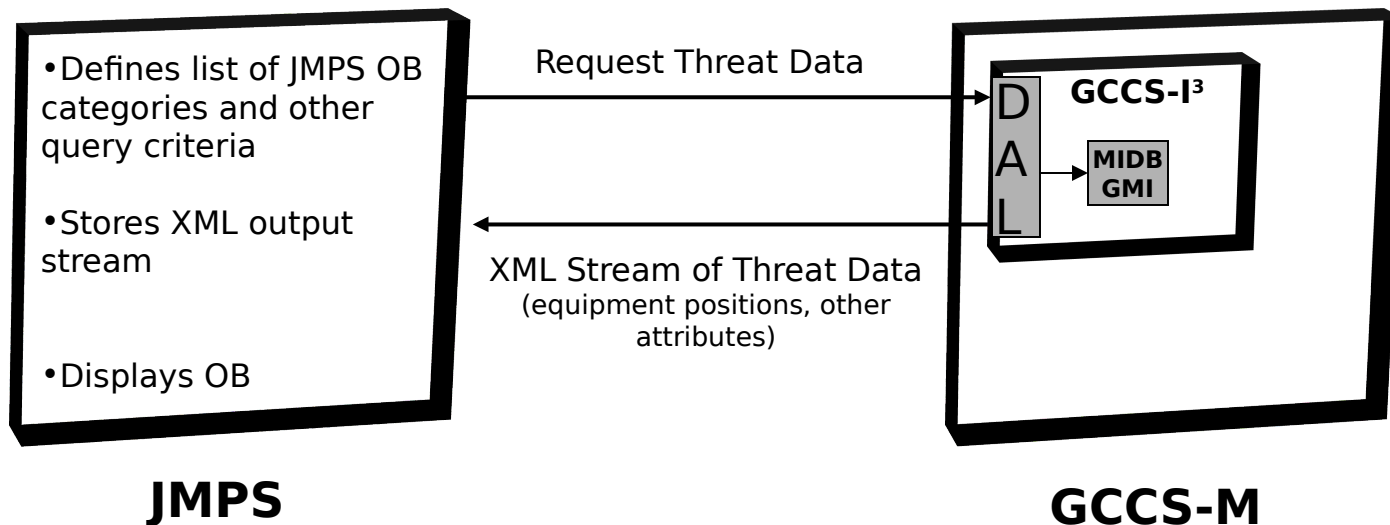
JC1/GCCS-M Interface



- Interface to GCCS-M from JMPS
 - A revised GCCS-M Data Access Layer XMLSearch API is used by the JMPS software to request the required threat data across the LAN
 - Not currently available to the mission planner without giving the planner additional privileges
 - Ultimate source of the data is the equipment portion of the GCCS-M MIDB data base
 - The BE_NUMBER and CATEGORY elements of any associated facilities are also planned to be retrieved
- Processing of the Data on JMPS
 - Upon receipt of the threat data, JMPS saves the threat data set for subsequent use by the mission planner
 - More than a single 'GCCS-M-generated' data set can be saved
- Usage of the Data on JMPS
 - Available to mission planner as a data set that can be used within a planning session



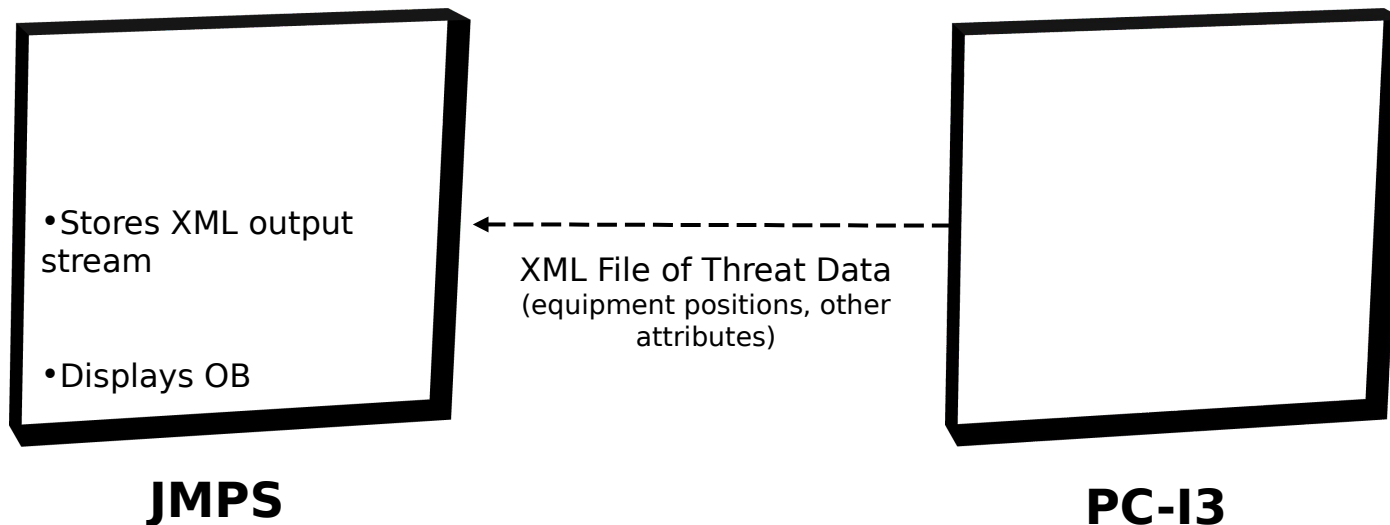
JC1 Implementation (Navy CONOPS)



Note: The only change between JV1 and JC1 is the low-level packaging of the request and the addition of BE_NUMBER and CATEGORY as attributes requested and stored by JMPS.



JC1 Implementation (Air Force CONOPS)



Note: The only change between JV1 and JC1 is that BE_NUMBER and CATEGORY are stored by JMPS.



GCCS-M Future Plans



- Transition to new GCCS-M Common Data Exchange (CDE) XML interface
 - Currently under development
 - Feb 2003 DAL SDK contained first information on details of this interface
- Eliminate the XMLSearch interface
 - Agreement to maintain the XMLSearch interface only as long as JMPS requires it

Systems Engineering Team Participation



JMPS/GCCS-M Interface Issues



- DAL changes due to security
 - Username and password
 - Trusted root authority
- Installation of GCCS-M 4.X DAL for operational use
 - JC1 risk #178
 - Formal letter from PMA-233 being worked
- Availability of GCCS-M 4.X software
 - GCCS-M Software MOA in place
 - Jan 02 version being used for JV1 development and JV1/JC1 test
 - Version with DAL security changes (Feb 02)
 - Integration test not yet completed
 - Expected to be available sometime after 4 Apr 03



JMPS/NAVSSI Interface



Requirement Reference



AVI_GPSALM_AUTO	This interface adds the capability to programmatically retrieve GPS data from NAVSSI, SIPRNET, or the Internet.	JC1
-----------------	---	-----



NAVSSI Interface Capabilities



- NAVSSI can produce almanac data
- NAVSSI is a COE Level 6 unclassified system
 - Supposedly a connection from NAVSSI Block 3 to GENSER Secret GCCS-M 3.X via a serial cable to jots1 for transfer of the navstar.alm file
 - No support for this has been negotiated between GCCS-M and NAVSSI Block 4
 - If JMPS wanted to, we could pursue having NAVSSI push the navstar.alm file to a JMPS ftp directory
 - Probably not practical until NAVSSI is on the ship's GENSER Secret LAN
- NAVSSI will start to be installed on the ship's GENSER Secret LAN in FY05



NAVSSI



- NAVSSI Almanac Data
 - navstar.alm file from NAVSSI Block 3 to GCCS-M
 - Block 3, not in Block 4 yet
 - Mission Planning systems (TAMPS, JMPS) can connect to GCCS-M jots1 'ftp publish' directory to pull the navstar.alm file
 - TAMPS ship riders use the almanac data file emailed to them or pull almanac data from a web site on SIPRNET
 - There are problems with the almanac data file produced by NAVSSI prior to NAVSSI Block 4 (specifically Ver 4.2)
 - This interface should not be used until a version of NAVSSI (supposedly 4.2) produces a navstar.alm file without errors



NAVSSI Program Office



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 - Patrick Truver, PMW-156-3, 619-524-7767,
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- PMA-156
 - CDR Art Sterret, PMA-156, 619-524-7837,
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- SSC SD
 - Peter Shaw, SSC SD Code 23201, 619-553-6310
 - Samir Shammas, SSC SD Code 2321, 619-553-2120,
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NAVSSI Issues



- **Nonexistent JMPS/NAVSSI Interface MOA**
 - Being worked by Samir Shammass
- **Sample NAVSSI 4.2 file for testing**
 - Requested from Patrick Truver on 21 Feb 03
 - Almanac data file from NAVSSI 4.2.0.35 received from Samir Shammass on 6 Mar 03
 - Matt Becker reported 'NAVSSI 4.2.0.35 Test Successful' for JMPS on 7 Mar 03
- **Installation of NAVSSI 4.2.0.35**
 - CV/CVN (CVN-76, CVN-69 are first two) is expected in FY04/FY05
 - LHA/LHD are not expected to get Block 4 upgrade for years
 - Most big deck amphibians are currently Block 2
- **Face-to-face meeting with PMW/PMA-156**
 - being set up to address JMPS/NAVSSI interface
 - Tentatively 20 Mar 03 at SSC SD



JMPS/PTW Interface



JMPS/PTW Interface

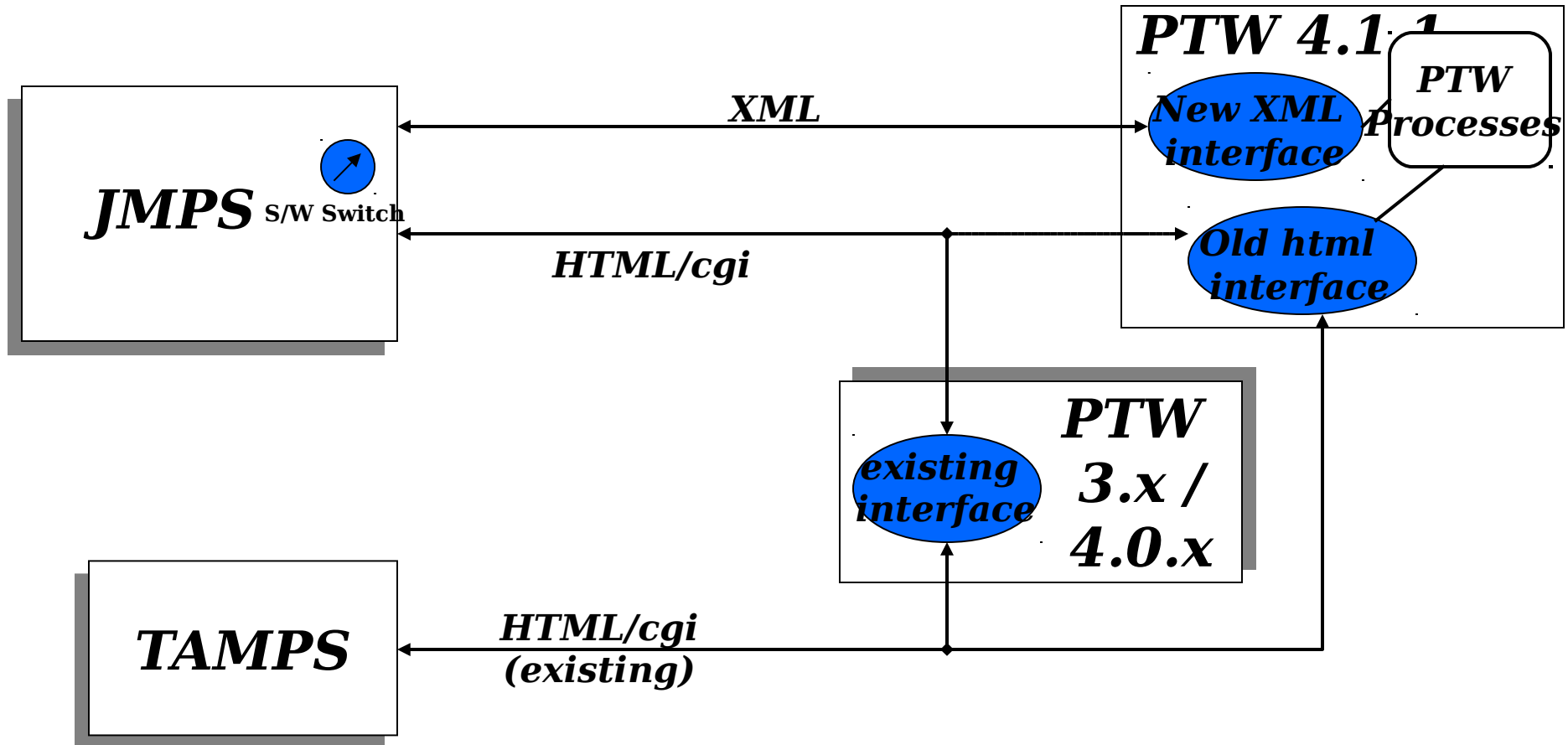


- Requirement
 - Query and retrieval of the following PTW imagery and products:
 - Imagery (in NITF 2.0 Expanded Format)
 - Automated Target Acquisition (ATA) Products (chipped images)
 - Point Position Information Products (PPIP)
 - Target Folders with Visual Targeting Aids (VTAs)
 - The PTW Interface also supports ATA product generation requests, checking on the status of a job request, and the exporting of retrieved products to UPC directories

*Note: TAM Images are no longer supported by PTW. Although retrieval of PPIP is supported on the JMPS side of the interface, no UPC has been identified as a user of this product.



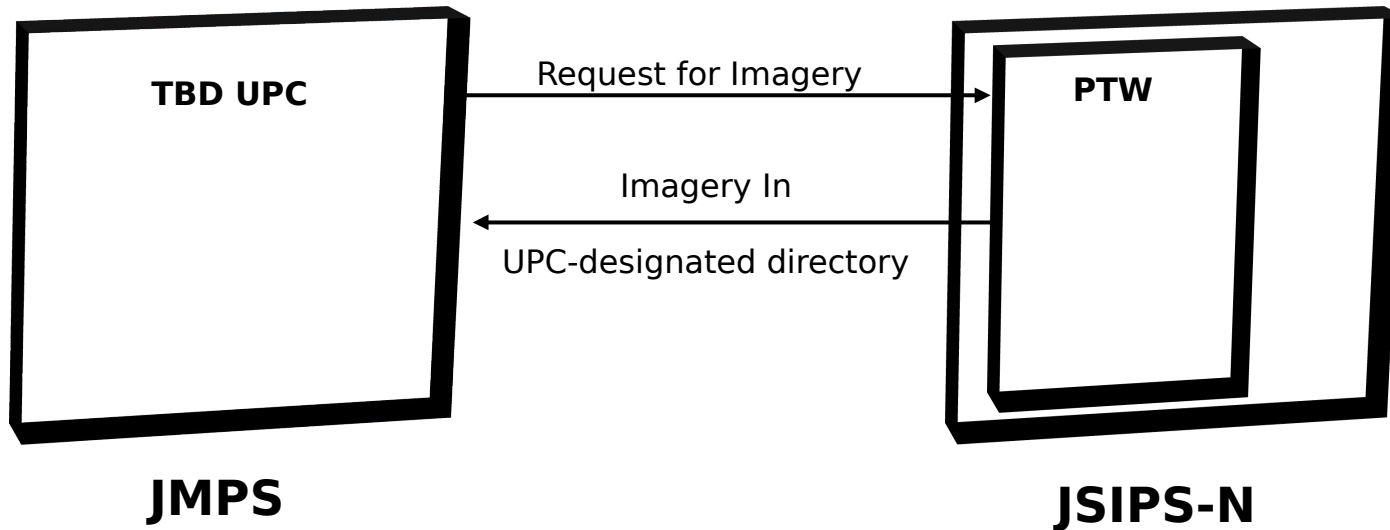
NavMPS/PTW Interfaces



Provides for all possible combinations



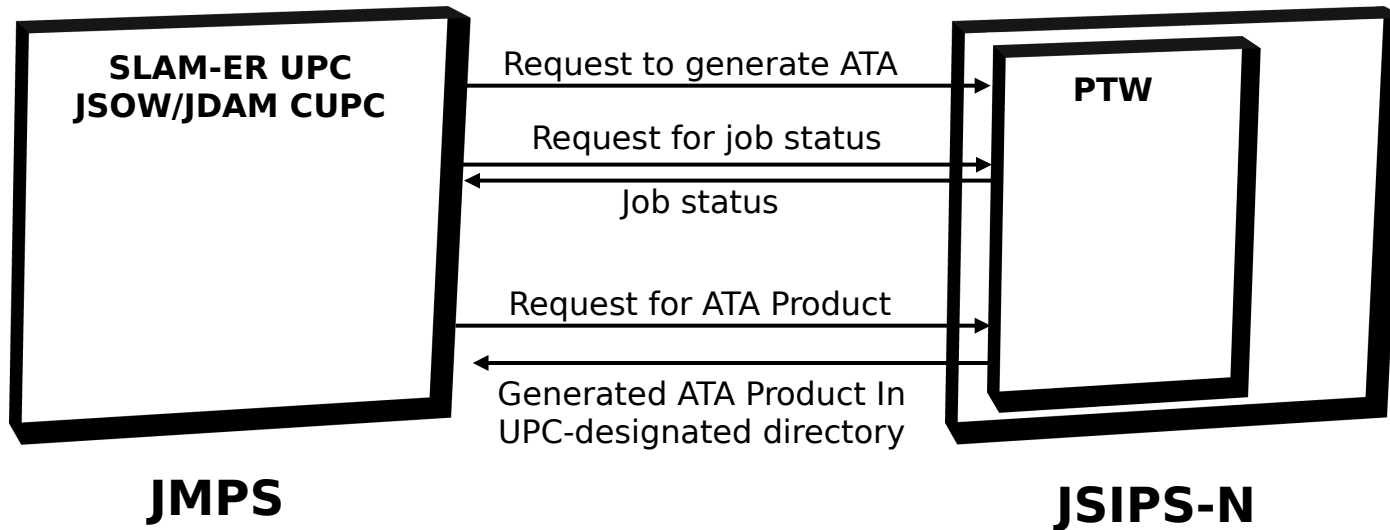
PTW Interface (Imagery)



*There is some question as to the usability of this imagery for situational awareness, given the limitations of viewing the imagery within JMPS.

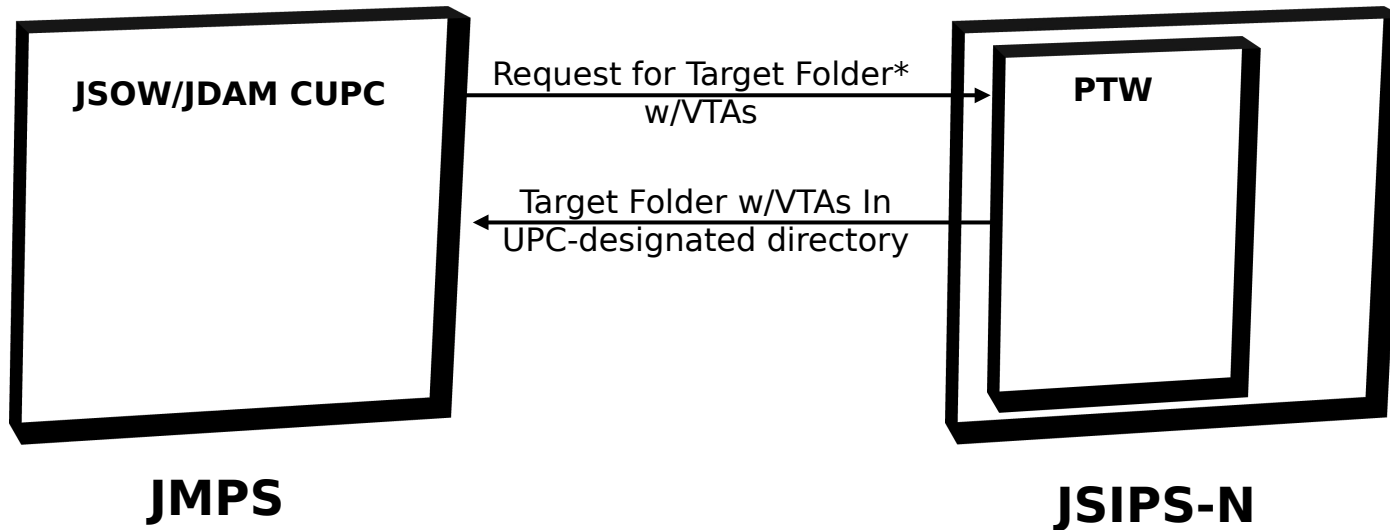


PTW Interface (ATAs)





PTW Interface (Target Folders)



*Target Folder must already exist on PTW.



JMPS/PTW Interface



- PTW 3.X
 - PTW 3.2 and beyond can interface with JMPS via http/CGI
 - Will probably not be in the fleet by the time JMPS is fielded
- PTW 4.1
 - Interfaces with JC1
 - http protocol
 - old CGI mode of communication only
 - PTW 4.1 Patch 2 Installed at IBAR China Lake
- PTW 4.1.1
 - Interfaces with JC1
 - http protocol
 - old CGI mode of communication
 - new XML mode of communication
 - PTW 4.1.1a installed at IBAR China Lake
 - does not include the XML interface
 - Expected to be installed at IBAR China Lake in Apr 03
 - Primary version for JMPS focus



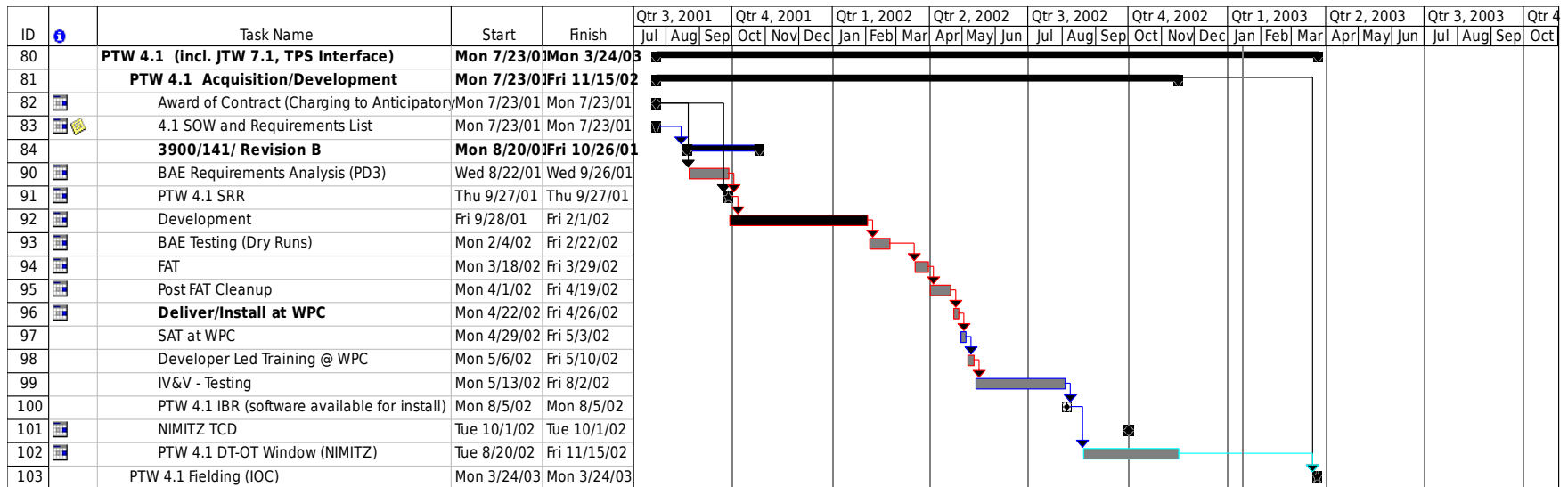
JMPS/PTW Interface Key Dates



- PTW 4.1 – Jul 01 -> Mar 03
 - 4.1 – Apr 02 at WPC and IBAR
 - 4.1 – Mar 03 IOC
- PTW 4.1.1 – Apr 02 -> Feb 04
 - 4.1.1a: Nov 02 at WPC; Jan 03 at IBAR
 - 4.1.1 – Apr 03 at WPC and IBAR; IOC Feb 04
 - ETF Web
 - System Tasking (XML interface for JMPS)
- PTW 4.2 – Jan 03 -> Sep 04
 - 4.2 – Nov 03 at WPC and IBAR
 - 4.2 – Sep 04 IOC



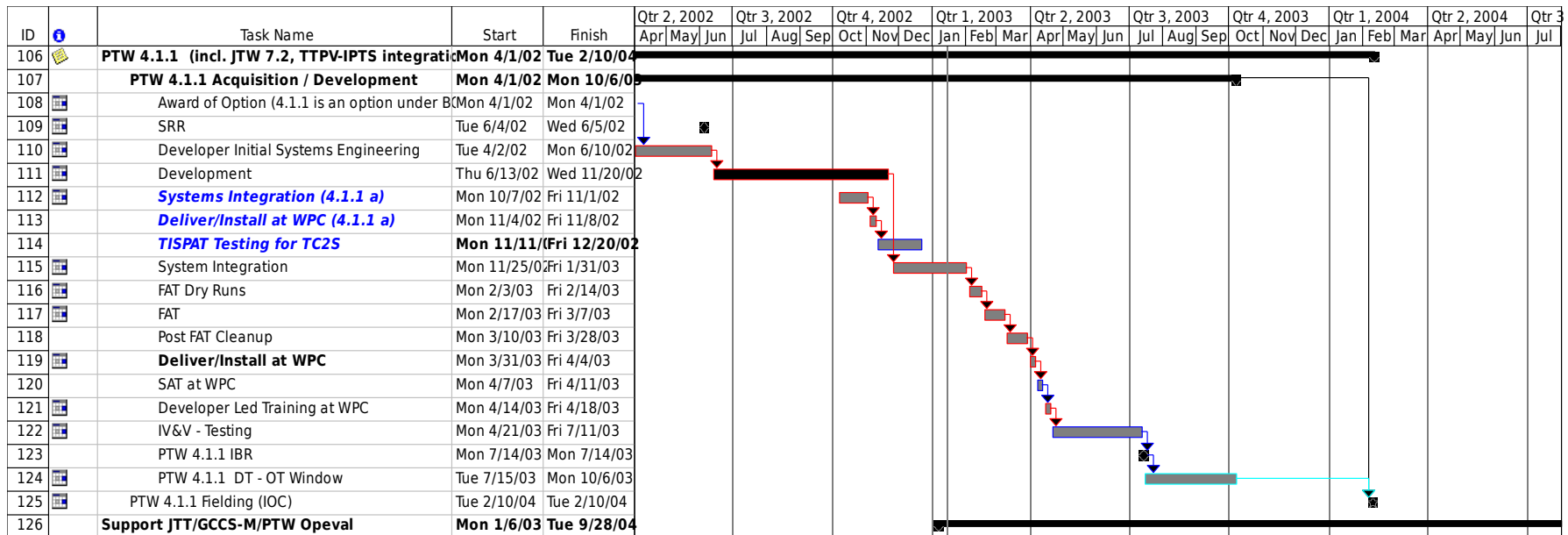
PTW 4.1 Schedule



Last Schedule Revision -
9/19/02



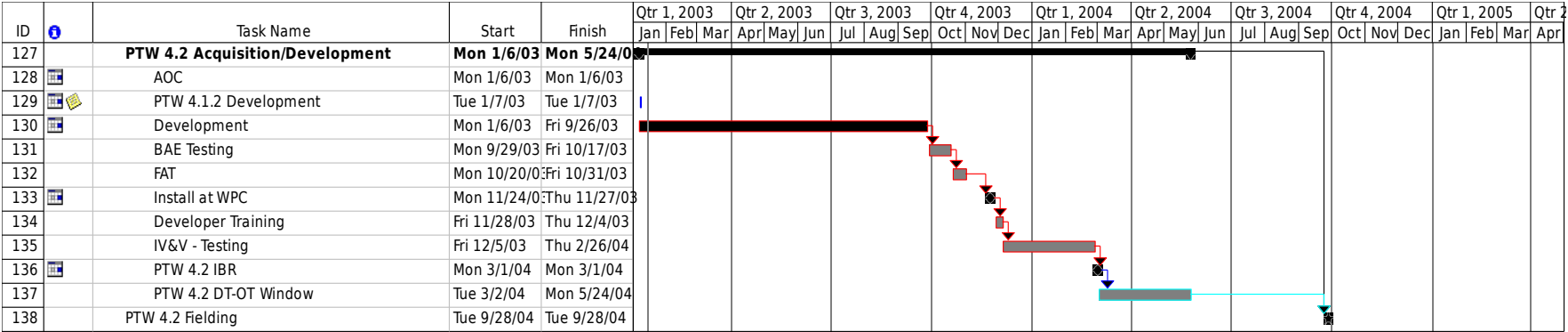
PTW 4.1.1 Schedule



Last Schedule Revision -
9/19/02



PTW 4.2 Schedule



Last Schedule Revision -
9/19/02



PTW External Schedule Drivers



ID	Task Name	Start	Finish	Qtr 2, 2000			Qtr 3, 2000			Qtr 4, 2000			Qtr 1, 2001			Qtr 2, 2001			Qtr 3, 2001			Qtr 4, 2001			Qtr 1, 2002			Qtr 2, 2002			Qtr 3, 2002
				Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
171	External Schedule Drivers	Mon 4/3/00	Wed 6/23/00																												
172	TAMPS	Wed 8/1/01	Wed 8/1/01																												
173	TAMPS 6.2.1/JTIM	Wed 8/1/01	Wed 8/1/01																												
174	JTT	Thu 3/1/01	Mon 9/3/01																												
177	VISUAL SERVICES	Wed 5/17/00	Fri 7/25/03																												
223	External Tests	Fri 6/1/01	Wed 6/23/04																												
224	SHARP OA	Mon 3/11/02	Fri 4/26/02																												
225	TIS Test on Nimitz	Fri 8/2/02	Thu 10/3/02																												
226	SHARP Techeval	Mon 1/6/03	Fri 3/28/03																												
227	SHARP Opeval	Tue 5/13/03	Mon 6/9/03																												
228	GCCS-M 4.x (Roosevelt)	Fri 6/1/01	Fri 6/1/01																												
229	GCCS/JTT/PTW Opeval	Thu 4/1/04	Wed 6/23/04																												
230	Common Data Client	Thu 11/30/00	Wed 2/21/01																												
231	Implement CDC on Coronado for FBE-I	Thu 11/30/00	Wed 2/21/01																												
232	NSWPC SPF	Wed 11/15/00	Wed 5/15/02																												
233	SPF build #3	Wed 11/15/00	Wed 11/15/00																												
234	SPF build #4	Tue 5/15/01	Tue 5/15/01																												
235	SPF build #5	Thu 11/15/01	Thu 11/15/01																												
236	SPF build #6	Wed 5/15/02	Wed 5/15/02																												
237	DII COE	Mon 4/3/00	Sun 4/1/01																												
238	DII COE 4.2	Mon 4/3/00	Mon 4/3/00																												
239	DII COE 4.3	Mon 10/2/00	Mon 10/2/00																												
240	DII COE 4.4	Sun 4/1/01	Sun 4/1/01																												
241	Broadsword	Mon 1/15/01	Mon 1/15/01																												
242	V3.0	Mon 1/15/01	Mon 1/15/01																												
243	Misc Activities	Mon 8/28/00	Mon 9/18/00																												
244	DII COE Studies	Mon 8/28/00	Mon 9/18/00																												

Last Schedule Revision -
9/19/02



PTW Future Plans



- JMPS interface
 - Old CGI mode of communication phased out as TAMPs dies out
 - At this point, PTW will only support the new XML mode of communication
- Other
 - Joint Targeting Toolkit (JTT) requests accurately mensurated points from PTW
 - PTW 4.1.1 accomplishes this via a file directory
 - PTW 4.2 looking at an XML interface similar to JMPS
 - JAWS
 - Dynamic Target Management Service (DTMS)



JMPS/PTW Interface Issues



- PTW 4.1.1 software at IBAR China Lake
 - Expected Apr 03
- Usability of PTW imagery
 - JMPS NITF Viewer provided by Autometric does not handle the PTW imagery well
 - Only an issue if a UPC decides they want to request/display imagery



JMPS/SPF Interface

Note: The following set of slides are from CDR Buck's NSWPC IPT Briefing, 10 Jan 03.



NSWPC Purpose/Charter



**ENHANCE CVBG
TACAIR and Tomahawk
Strike Warfare Capabilities**

**BY INTEGRATING CVIC
Mission Planning and
Intelligence Systems
THROUGH USE OF SCN FUNDS
RCOH and New Construction**

“JOINT VISION 2010” ⇒ Network-Centric Warfare

Phase I (FY97-01)

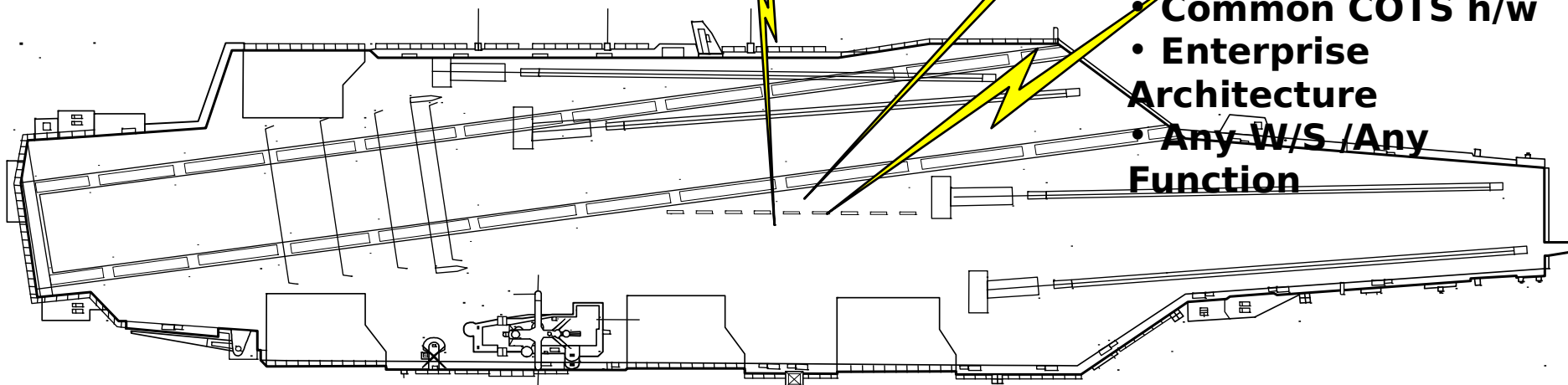
- More planning time
- Less “admin” time

Phase II (FY98-03)

- Time-critical Strike
- Rapid Real-time Retarget

Phase III (FY02-07)

- Common COTS h/w
- Enterprise Architecture
- Any W/S /Any Function



**Allow decision-makers to manage information more efficiently
and effectively**

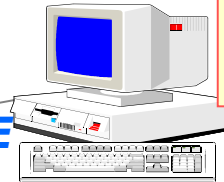


NSWPC IPT

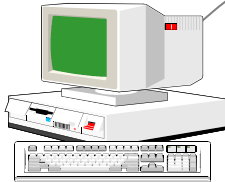


PMS 312/378 Program
NAVSEA PEO(Carriers)

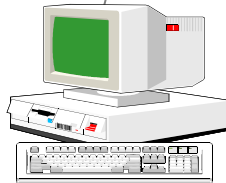
PMA-241
PEO(T)
DCRS / LIGHT TABLE



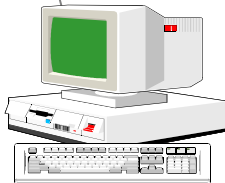
PMA-281
PEO(W)
JSIPS-N/TC2S



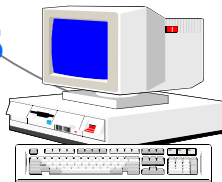
PMW-157
SPAWAR
GCCS-M
SVDS



PMW-165
SPAWAR
ADNS/ISNS



PMW-155
SPAWAR
METOC

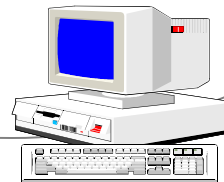


PMA-281
PEO(W)
NSWPC PARM
GFE/GFI

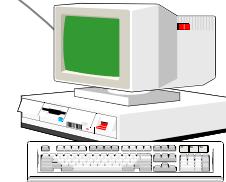
Systems Engineering
S/W & H/W Mods
Integration & Test



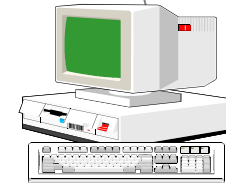
PMA-251
PEO(T))
ADMACS



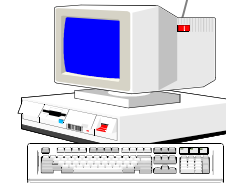
PMA-233
PEO(T)
TAMPS/PFPS
/JMPS



PMA-205
AIR-1.1
TOPSCENE



PMA-234
PEO(T))
TEAMS



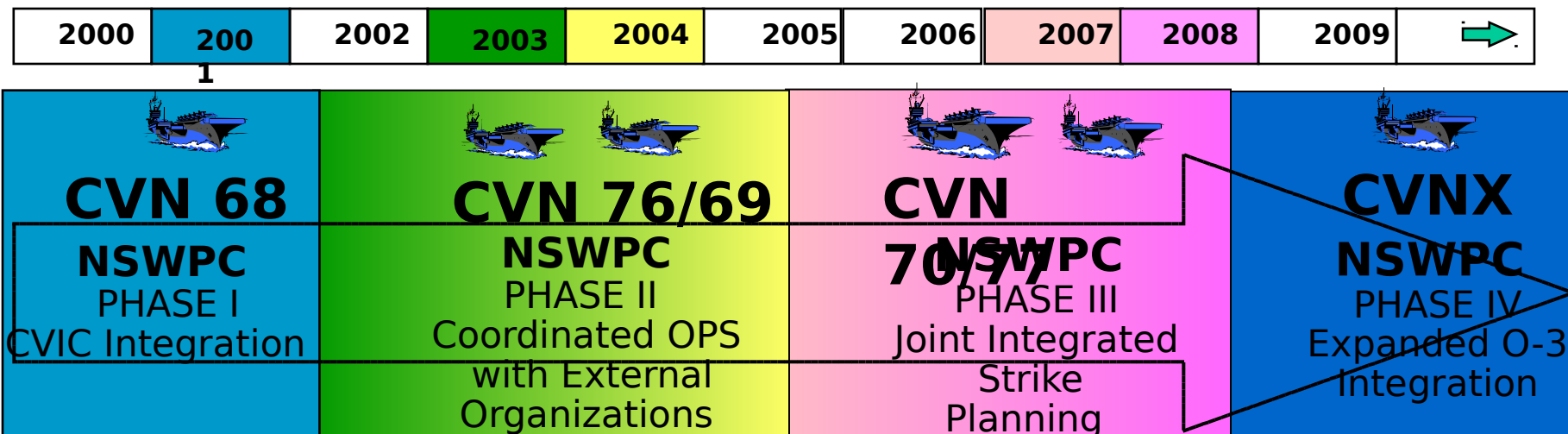
CVN & LHA

CVN only

NAV  AIR



NSWPC Integration Approach



NSWPC Capabilities

<ul style="list-style-type: none"> • Single CVBG • Within CVN hull • Unit through CAG/STK OPS • Focus on information management 	<ul style="list-style-type: none"> • Multiple CVBG • Accompanying ARG/MEU • In-theater AF units • Focus on liaison and coordination with taskers and other theater units • STWC Support 	<ul style="list-style-type: none"> • Convergence of NAVAIR systems • Common COTS H/W for CVIC • Enterprise Architecture 	<ul style="list-style-type: none"> • Integrated CVN Warfare System • Expand COTS Based H/W for O-3 level
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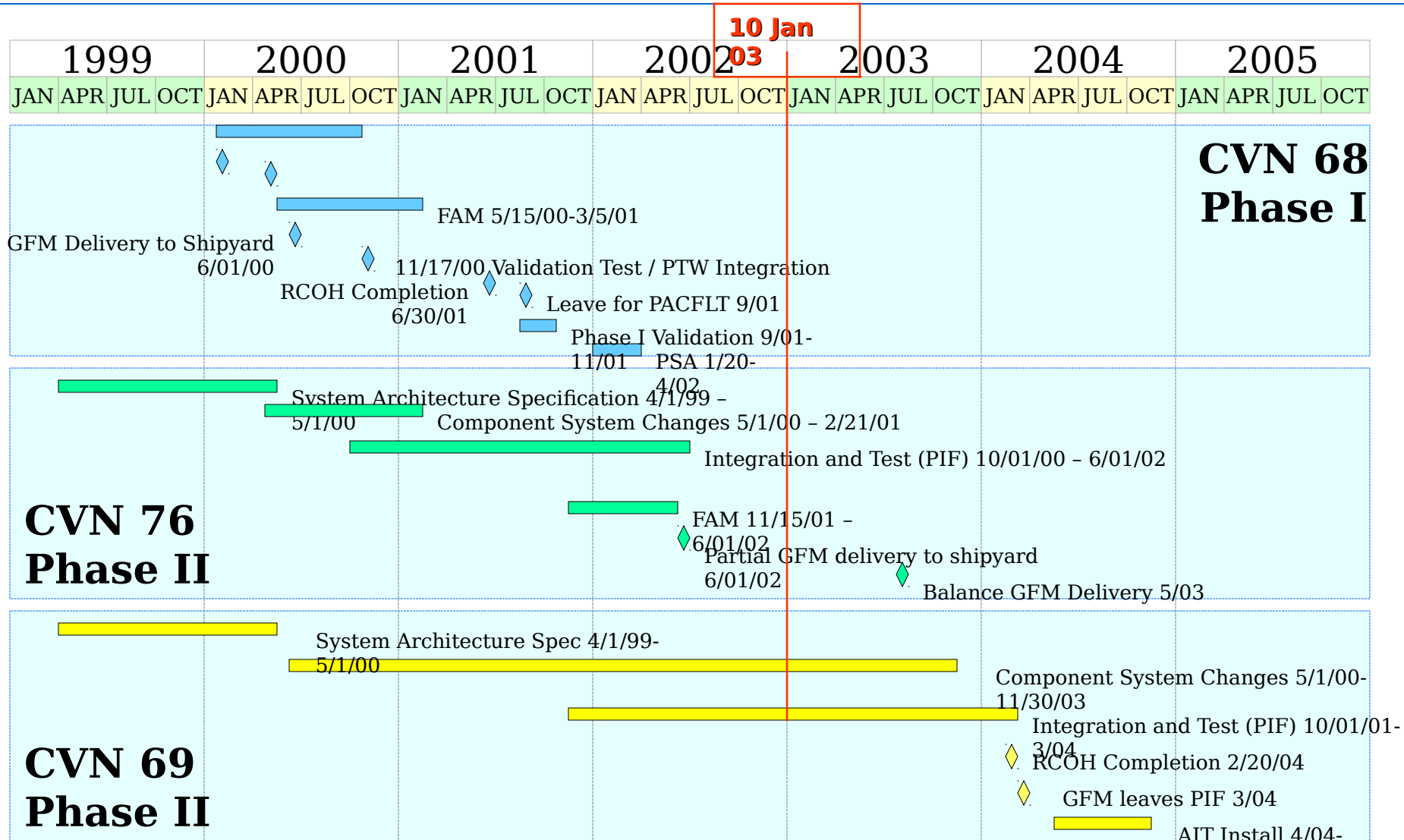
Major Events



- 7-9 Oct 02 TOPSCENE delivered and installed
- 8-10 Oct 02 CVN 69/70 PARM Tech Summit
- 21 Oct 02 TIS 1.5 delivered to PIF
- 12 Nov 02 CVN 69/70 QPR
- 19 Nov 02 CVN 77 Plus Up Briefing
- 4 Dec 02 CVN 77 Tech Summit
- 20 Dec 02 SPF BLD 7 delivered to PIF
- 16 Dec 02 System of System Exit Brief
- 7-9 Jan 03 SPF SAT

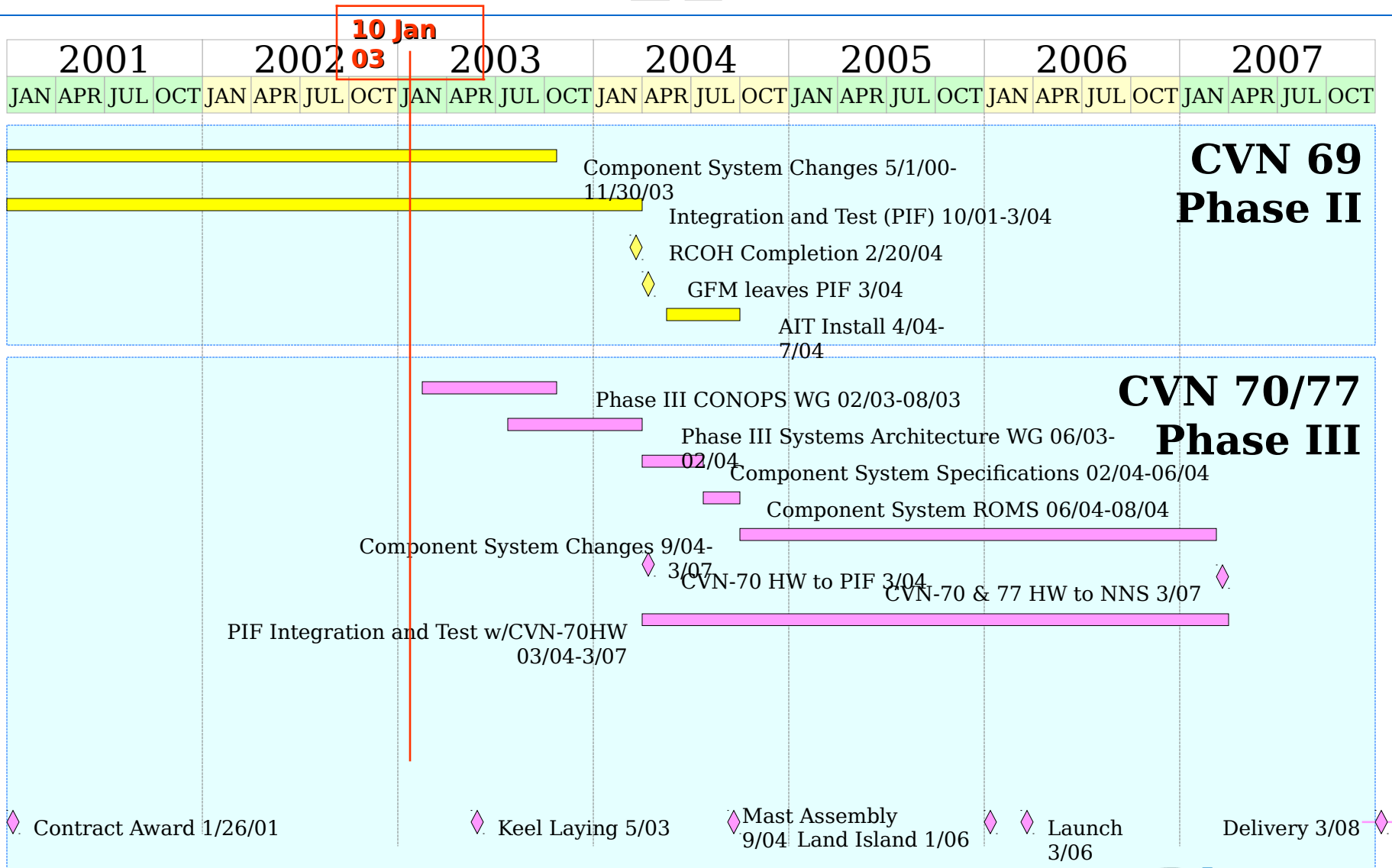


Current NSWPC Schedules





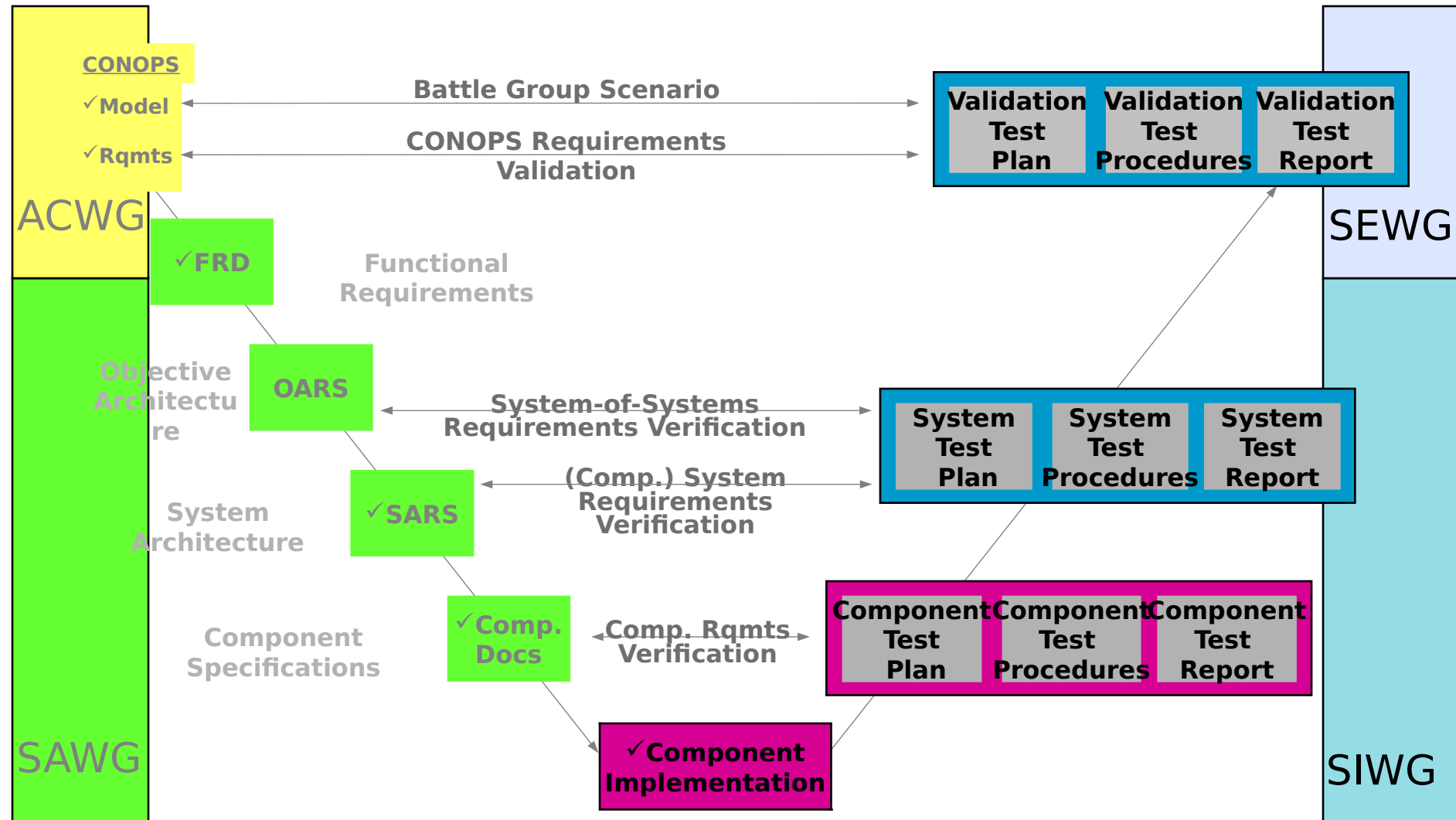
NSWPC Schedule & CVN 21





NSWPC Requirements

Process Phase III (CVN 70/77)





SPF Build 7/8/9 Status



- Scheduled releases
 - Dec '02 (B7)
 - Jun '03 (B8)
 - Nov '03 (B9)
- Build 7
 - Delivered to PIF
 - Installed on stand alone server until PTW 4.1.1 is available
 - Testing has started
- Build 8/9
 - Contract Awarded
 - Work Commencing



FY03 SPF Events



- | | |
|--|---|
| <input checked="" type="checkbox"/> 02 Dec 02 | SPF Build 7 Test Readiness Review |
| <input checked="" type="checkbox"/> 02-06 Dec 02 | SPF Build 7 FT and IT |
| <input checked="" type="checkbox"/> 20 Dec 02 | SPF Build 7 Delivery |
| <input checked="" type="checkbox"/> 23 Dec 02 | SPF Build 8/9 Contract Award |
| <input checked="" type="checkbox"/> 06-07 Jan 03 | SPF Build 7 PIF Installation |
| <input type="checkbox"/> 07-10 Jan 03 | SPF Build 7 SAT and SIT |
| <input type="checkbox"/> 13 Jan-Mar 03 | SPF Build 7 Integration and Test |
| <input type="checkbox"/> 17 Mar 03 | SPF Build 8 Design Review |
| <input type="checkbox"/> 02 Jun 03 | SPF Build 8 Test Readiness Review |
| <input type="checkbox"/> 03-06 Jun 03 | SPF Build 8 FT and IT |
| <input type="checkbox"/> 13 Jun 03 | SPF Build 8 Delivery |
| <input type="checkbox"/> 16-17 Jun 03 | SPF Build 8 PIF Installation (Tentative) |
| <input type="checkbox"/> 17-20 Jun 03 | SPF Build 8 SAT and SIT (Tentative) |
| <input type="checkbox"/> 23 Jun 03 | SPF Build 10/11 Contract SOW First Draft (Notional) |
| <input type="checkbox"/> 23 Jun-Aug 03 | SPF Build 8 Integration and Test (Tentative) |
| <input type="checkbox"/> 21 Jul 03 | SPF Build 10/11 Contract SOW Final Draft (Notional) |
| <input type="checkbox"/> 19 Aug 03 | SPF Build 9 Design Review |
| <input type="checkbox"/> 25 Aug 03 | SPF Build 10/11 Contract Award (Notional) |



SPF Build 7 Tasks



- **TMS DTG**
- **ATO Search**
- **File Description Edit**
- **Global Data Archive**
- **Data “Valving”**
- **Overlay Route Display**
- **Multiselect**
- **Member Roles**
- **Rubber Band Zoom**
- **ATO Validation Warning**
- **Strike Timeline Tool**
- **Enhanced Map Loader**
- **Text Highlighting**
- **Tanking Correlation**
- **User Preference**
- **IFF Mode 4**
- **SEAD Node**
- **Folder Origination**
- **Origination Help**
- **Origination Admin**
- **Survivor Card**
- **CSAR Additions**
- **Mission Type**
- **Single Target**
- **ATO Text Search**
- **ACO View**
- **Folder Search**
- **User comment collection**
- **Route Colors**
- **ATO 2000 Parsing**
- **Expanded Keyboard Card**
- **METOC Interface**
- **Multi-table Access**
- **TBMCS I/F Design**



SPF Build 7 Tasks



- **Auto Generation of Post Strike Intelligence Data**
- **ISIS Airplan Import**
- **DMPI Correlation Investigation**
- **Extended DAFIF Displays**
- **Drive to Location**
- **Center on Entity**
- **Arrow Drawing Tool**
- **IFL Report**
- **ESRI GIS Shape Files**
- **Improve Map Load**
- **Proportional Text**
- **Map Refresh Button**
- **Help Cut & Paste**
- **Map Tool Colors**
- **Range/Bearing Tool**
- **Auto-filling**
- **Direct Paste**
- **Element Card Kneeboard Card**
- **Lat/Long Copy/Paste**
- **STWC Domain**
- **TBMCS Interface**
- **ACE**



SPF Build 8/9 JMPS MB Tasks



- **SPF JMPS Mission Binder**
 - Provide for JMPS Mission Binder (MB) support.
 - Up to 2 JMPS MB build deliveries during each SPF Build. Mission Binder Build schedules will be determined by the Government.



SPF Build 8 Specific Tasks



- ATO/ACO handling enhancements
- Host platform/server tasks
- User communication improvements
- Time display improvements
- Required security improvement
- General usability improvement
- Basic improvements
- Error handling and robustness improvements
- Security improvements
- Engineering studies for future enhancements



SPF Build 9 Specific Tasks



- ATO/ACO handling enhancements
- Security improvements
- Timeline Tool improvements
- Map Loader improvements
- GCCS interface improvements and enhancements
- User friendliness improvements
- Strike Warfare Commander improvements
- Map Tool enhancement
- User communication improvement
- Engineering studies for exploring future enhancements



SPF Build 10+ (Tentative)



- External System Configuration Encapsulation Implementation
- Componentization Implementation
- SPF Update Notification Implementation
- SPF Data Synchronization Implementation
- SPF JMPS UPC Interface Implementation
- Full SPF DB for JMPS Implementation
- Enterprise Architecture Implementation
- TC2S Integration Implementation
- Copy Commands Standardization
- Upgrade PTW/SPF Interface to Use XML
- Electronic Import of ADMACS Airplan



JMPS/WXI (METCAST) Interface



Summary



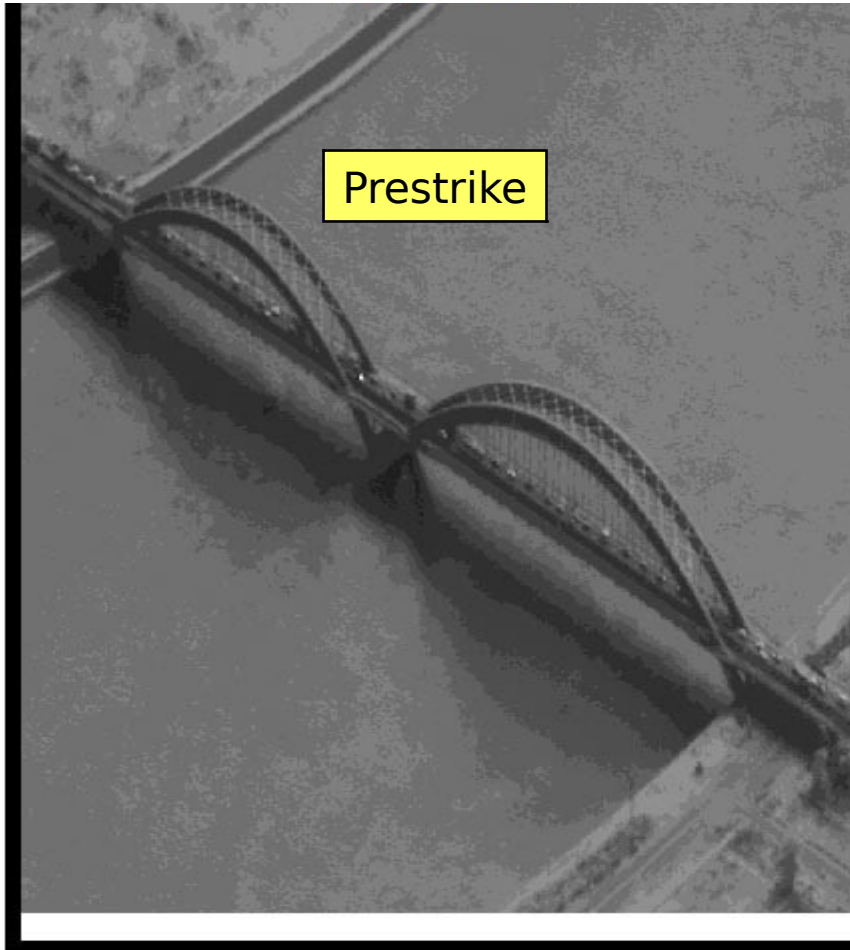
External Interface Quiz



- What does the term External Interface mean?
 - System/Data that is not packaged as part of JMPS Framework, Common Components, or UPCs
- How do External Interfaces relate to External Dependencies?
 - Within each external interface, there can be dependencies
- Who is working External Interfaces?
 - Ancina is the Cat Herder
 - Various NAVAIR team members are the SMEs
 - Tester may or not be the technical SME
 - EVERYONE is working them
- Why are we working External Interfaces?
 - To provide complete information to the JMPS user/UPC during the planning process
 - To avoid failure during OT



In case we forget what we plan for...



Prestrike



Post-strike